

# PATENT SPECIFICATION

805,693

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International Classification :—A24d.

## COMPLETE SPECIFICATION.

### Improvements in or relating to Cigarettes.

We, ROTHMANS LIMITED, a Company organised under the laws of Great Britain, of 13/25 Underwood Street, City Road, London, N.1, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement :—

This invention relates to cigarettes and especially to cigarettes known as the mouthpiece type in which a relatively stiff mouthpiece tip extends beyond one end of the tobacco rod forming the filler of the cigarette paper tube to which the mouthpiece is joined.

As the tobacco rod does not extend the whole length of the cigarette, the final glowing end of the rod which remains when the cigarette has almost completely burnt may fall away.

Proposals have already been made to overcome this difficulty, but despite these proposals, the demand which exists for the mouthpiece type of cigarette has not been satisfactorily met ; the demand is especially for such a cigarette in which the cigarette paper tube extends the whole length of the cigarette and so extends over the mouthpiece which thus forms an internal reinforcement within the paper tube at one end.

The main object of this invention is to provide a cigarette of the internal mouthpiece form referred to which shall have an improved holding of the glowing end to prevent it from falling away and which will enable the demand for such a cigarette to be met.

According to this invention a mouthpiece cigarette comprises an outer tube of cigarette paper which forms an outer covering for an internal reinforcement forming the mouthpiece and extending inwardly from one end of the cigarette and a rod of tobacco which

extends from the inner end of the mouthpiece to the other end of the cigarette and a layer of a vinyl plastic material which extends at least from the inner end of the mouthpiece over the adjacent end of the tobacco rod, whereby the heating of the plastic material when the tobacco is nearly consumed causes it to curl inwardly so as to grip the remaining end of the tobacco rod.

The layer of plastic material may extend at least partly over the mouthpiece so as to bridge the junction between it and the tobacco rod. Such material preferably is a polyvinyl such as polyvinyl chloride or acetate.

The vinyl material selected for this layer is of especial value in enabling a satisfactory cigarette of the mouthpiece form referred to to be supplied : it has the especial virtue when heated of contracting violently and curling inwardly towards the centre of the tube so gripping and retaining the glowing end. It is non-inflammable and when heated does not give off an objectionable odour nor does it affect the flavour of the tobacco smoke when drawn past it, even in the heated condition.

Thus, a cigarette formed in accordance with this invention will satisfy the demand for a cigarette of normal appearance and "feel" by reason of the cigarette paper extending not only over the layer but also over the internal reinforcement providing the mouthpiece end. The strong holding action set up by the layer will not only firmly grip the burning end coal but if the cigarette is discarded at this time, the layer will cause the glowing end to become extinguished : on the other hand, if the smoker so desires, he can continue to smoke the cigarette without any reduction of his enjoyment.

For convenience in the production of cigarettes according to this invention, the layer of

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- vinyl plastic material may be applied to a short length of paper which is laid to the inner surface of the paper forming the cigarette tube so that the layer will be presented to the tobacco rod in the complete cigarette. The internal reinforcement to provide the mouthpiece is provided by a short length of card also laid to the paper forming the cigarette tube. This paper to which the layer is applied would overlap the card and the end of the tobacco rod adjacent the edge of the card so that this layered paper extends across the junction of mouthpiece and the tobacco rod.
- 15 The mouthpiece can if required be fitted with a filter which can be of cotton wool or other material fitted into the mouthpiece formed by the internal reinforcement: this filter may extend to the extreme end of the mouthpiece or it may terminate short of that end to provide what may be termed a "recessed" or built-in filter.

The invention is illustrated in the accompanying drawing in which Figure 1 is a perspective view of a cigarette with some parts broken away to reveal other parts; Figure 2 is a longitudinal section of the mouthpiece end of the cigarette; Figure 3 is a section taken on the line III—III, Figure 2, and Figure 4 is a view similar to Figure 2 of a mouthpiece fitted with a filter.

Referring to the drawing, 1 indicates a tube of cigarette paper formed in the conventional manner: at one end the tube is internally reinforced by a piece of cardboard which is formed into a tube so as to provide extending inwardly from that end a relatively stiff mouthpiece denoted generally by the reference 3: extending from the other end of the tube 1 up to the edge of the reinforcement 2 is a rod 4 of tobacco.

In order to achieve the object of this invention there is provided a piece of paper having applied to it the layer of vinyl plastic material: this paper is formed into a tube 5, which is so disposed as to extend from over the inner end part of the mouthpiece over the end part of the tobacco rod 4 adjacent the mouthpiece.

50 When such a cigarette is smoked down to the end of the tube 5 (the position of this end preferably being marked by a line imprinted on the outside of the tube 1), the heat acting on the tube 5 will cause the tube, in view of its nature, to contract and curl inwardly. At this point of consumption of the cigarette only the inner glowing end of the rod 4 of tobacco remains and due to the action of heat on the tube 5, the inward curling will produce an effective grip on the glowing end of the rod. This tube will also act to extinguish the glowing end if the cigarette is discarded,

but will enable the tobacco to be wholly consumed if desired.

The cigarette can be marketed in the form shown in Figure 2, i.e. purely as a mouthpiece cigarette, or, as is shown in Figure 4, the mouthpiece may contain a filter 6 of a filter material.

The nature of the vinyl plastic material has been indicated in general terms: a particular material which has been found to give good results can be produced as follows:

Polyvinyl chloride plasticised with a material (25—35% by weight according to type) which is preferably of the high boiling ester type such as di-octyl phthalate and which may with advantage be also of a fire retarding nature, is fabricated by calendering, extrusion, or from an emulsion thereof, into sheet form, preferably of a thickness of 1—2 thousandths of an inch. The resulting film when suitably cut and reeled may be used as such or, if preferred, laminated to a pure paper of about the same thickness either by heat sealing or by the use of an innocuous adhesive.

#### WHAT WE CLAIM IS:—

1. A mouthpiece cigarette comprising an outer tube of cigarette paper which forms an outer covering for an internal reinforcement forming the mouthpiece and extending inwardly from one end of the cigarette and a rod of tobacco which extends from the inner end of the mouthpiece to the other end of the cigarette and a layer of a vinyl plastic material which extends at least from the inner end of the mouthpiece over the adjacent end of the tobacco rod, whereby the heating of the plastic material when the tobacco is nearly consumed causes it to curl inwardly so as to grip the remaining end of the tobacco rod.
2. A mouthpiece cigarette as claimed in Claim 1 and wherein the layer of plastic material extends at least partly over the mouthpiece so as to bridge the junction between it and the tobacco rod.
3. A mouthpiece cigarette as claimed in Claim 1 or 2 and wherein the plastic material is applied to a length of paper which is applied to the inner surface of the paper tube.
4. A mouthpiece cigarette as claimed in any of the preceding claims and wherein the mouthpiece is fitted with a filter.
5. A mouthpiece cigarette as claimed in any preceding claim and wherein the plastic material is a polyvinyl chloride plasticised with 25—35% by weight of a high boiling ester such as di-octyl phthalate, the material being in sheet form.
6. A mouthpiece cigarette as claimed in any of the preceding claims and wherein the

- plastic material in sheet form is laminated to a sheet of paper.
7. A mouthpiece cigarette substantially as described with reference to the accompanying drawing.

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#### PROVISIONAL SPECIFICATION.

#### Improvements in or relating to Cigarettes.

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As the tobacco rod does not extend the whole length of the cigarette, the final glowing end of the rod which remains when the cigarette has almost completely burnt may fall away.

Proposals have already been made to overcome this difficulty, but despite these proposals, the demand which exists for the mouthpiece type of cigarette has not been satisfactorily met : the demand is especially for such a cigarette in which the cigarette paper tube extends the whole length of the cigarette and so extends over the mouthpiece which thus forms an internal reinforcement within the paper tube at one end.

The main object of this invention is to provide a cigarette of the internal mouthpiece form referred to which shall have an improved holding of the glowing end to prevent it from falling away and which will enable the demand for such a cigarette to be met.

According to this invention a mouthpiece cigarette comprises a tube of any usual cigarette paper which at one end is internally reinforced to provide a mouthpiece and which has at its inner surface at least where it extends over the tobacco rod near the junction between the rod and the mouthpiece, a layer of a plastic material having the properties when heated of tending to contract and of not supporting combustion. Such material may be selected from the vinyl group and preferably is a polyvinyl such as polyvinyl chloride or acetate.

The material selected for this layer is of especial value in enabling a satisfactory cigarette of the mouthpiece form referred to, to be supplied : it has the especial virtue

when heated of contracting violently and curling inwardly towards the centre of the tube so gripping and retaining the glowing end which caused the heating. It is non-inflammable and when heated does not give off an objectionable odour nor does it flavour the tobacco smoke when drawn past it, even in the heated condition.

Thus, a cigarette formed in accordance with this invention will satisfy the demand for a cigarette of normal appearance and "feel" by reason of the cigarette paper extending not only over the layer but also over the internal reinforcement providing the mouthpiece end. The strong holding action set up by the layer will not only firmly grip the burning end coal but if the cigarette is discarded at this time, the layer will cause the glowing end to become extinguished : on the other hand if the smoker so desires, he can continue to smoke the cigarette without any reduction of his enjoyment.

For convenience in the production of cigarettes according to this invention, the layer of plastic material may be applied to a short length of paper which is laid to the inner surface of the paper forming the cigarette tube so that the layer will be presented to the tobacco rod in the completed cigarette, the internal reinforcement of which is provided by a short length of card also laid to the paper forming the cigarette tube. This paper to which the layer is applied would overlap the card and the end of the tobacco rod adjacent the edge of the card so that this layered paper extends across the junction of mouthpiece and the tobacco rod.

The mouthpiece can if required be fitted with a filter which can be in the form of a plug of cotton wool or other material fitted into the mouthpiece formed by the internal reinforcement : this plug may extend to the end of the mouthpiece or it may terminate short of the end to provide what may be termed a recessed filter.

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1 SHEET

COMPLETE SPECIFICATION

This drawing is a reproduction of  
the Original on a reduced scale.

FIG. 1.

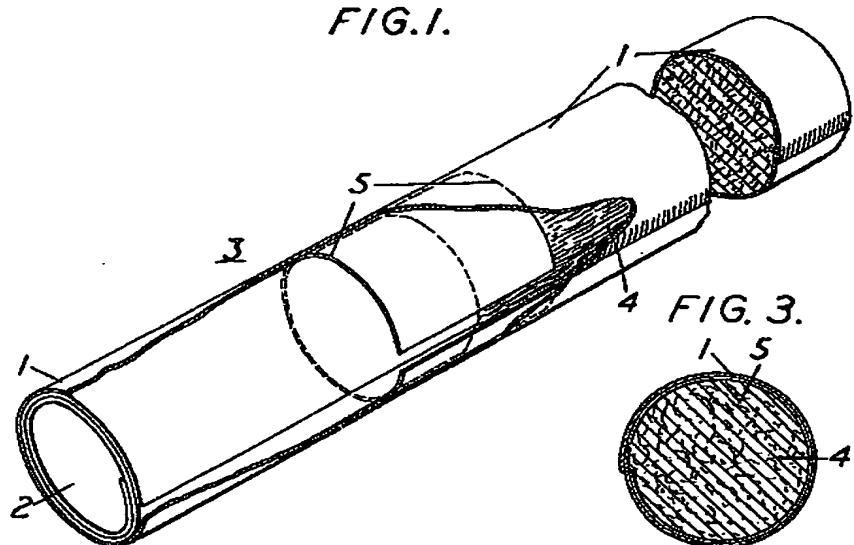


FIG. 2.

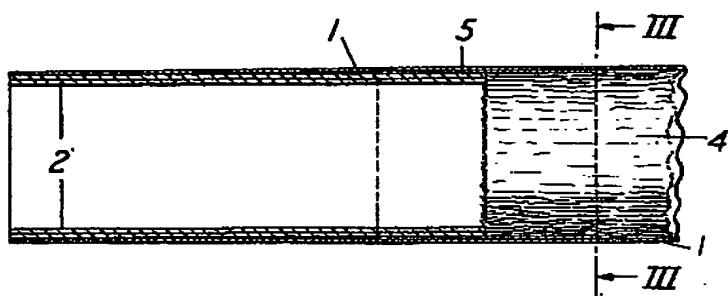


FIG. 4.

